U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT
ASHLAND RESOURCE AREA

ENVIRONMENTAL ASSESSMENT

FOR

CHINA GULCH FUELS REDUCTION USING MANAGED GOAT GRAZING

EA No. OR-110-02-036

This environmental assessment (EA) for the proposed China Gulch Fuels Reduction Using Managed Goats Grazing was prepared utilizing a systematic interdisciplinary approach integrating the natural and social sciences and the environmental design arts with planning and decision-making.

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EA COVER SHEET

Project Name/Number: CHINA GULCH FUELS REDUCTION USING MANAGED GOATS - OR-110-02-036.

Location: T. 38 S., R. 3 W., Sec. 17, Willamette Meridian

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CHAPTER 1: PURPOSE AND NEED

A. Background

This Environmental Assessment (EA) summarizes the analysis of a project proposal to treat vegetation for the purpose of reducing hazardous fuels using managed goat grazing. Southern Oregon Goat Producers submitted the project proposal for consideration to receive funding under Title II of the *Secure Rural Schools and Community Self Determination Act of 2000*. The project was approved for multi-year funding.

The *Secure Rural Schools and Community Self Determination Act of 2000* was enacted for the purpose of providing stable funding for those counties affected by the decreasing revenues generated from Oregon and California Railroad grant lands and the reconveyed Coos Bay Wagon grant lands. The Act provides for: 1) stable funding for schools and roads, 2) creation and investments in employment opportunities through projects that improve and maintain existing infrastructures, implement stewardship objectives that enhance forest ecosystems, and restore and improve land health and water quality, and 3) improving cooperative relationships among the people that use and manage Federal lands.

The project area is located in the Applegate River Watershed on lands administered by the Ashland Resource Area of the Medford District Bureau of Land Management (BLM). The legal description is T. 38 S.; R. 3 W.; in Section 17; Willamette Meridian.

B. PURPOSE AND NEED

Vegetation in the project area was non-commercially thinned in 1999 to improve forest health and to reduce fire hazard. Pacific madrone is resprouting within the project area, which is contributing to fire hazard and competing with conifers for water and nutrients. Managed goat grazing is proposed to respond to the need to reduce madrone sprouting and to meet objectives identified under the *Secure Rural Schools and Community Self Determination Act of 2000*. Specifically this project would implement stewardship objectives that would enhance forest ecosystems by maintaining healthy and more fire resilient forest stands, and would create employment opportunities through small business development.

The Purpose and Need for this Environmental Assessment is to respond to the proposal received from Southern Oregon Goat Producers to control vegetation and reduce hazardous fuels on BLM administered lands using manage goat grazing.

C. CONFORMANCE WITH EXISTING LAND USE PLANS

The proposed activities are in conformance with and tiered to the *Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines* (USDI, USDA 2001) and the *Medford District Record of Decision and Resource Management Plan* (RMP) (USDI 1995b). These Resource Management Plans incorporate the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl and the Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl* (NWFP) (USDA and USDI 1994). These documents are available at the Medford BLM office and on the Medford BLM web site at <http://www.or.blm.gov/Medford/>.

D. RELATIONSHIP TO STATUTES, REGULATIONS, AND OTHER PLANS

The alternatives are in conformance with the direction given for the management of public lands in the Medford District by the Oregon and California Lands Act of 1937 (O&C Act), the Federal Land Policy and Management Act of 1976 (FLPMA), and the Endangered Species Act of 1973 (ESA).

E. DECISIONS TO BE MADE

The Ashland Resource Area Field Manager, as the responsible official, must decide whether to implement the Proposed Action and associated Project Design Features, or defer to the No-Action Alternative.

There will also be a determination as to whether or not the impacts of the Proposed Action are significant to the human environment beyond those analyzed in other tiered documents as listed above. If the impacts are not significant, a Finding of No Significant Impact (FONSI) can be issued and a decision can be implemented. If any impacts are determined to be significant to the human environment, an EIS must be prepared before the manager makes a decision.

F. ISSUES

Potential for adverse effects to riparian areas and water quality

- Removal of vegetation in dry upland draws could affect soil stability
- There is concern for goats straying to adjacent intermittent riparian areas trampling vegetation and disturbing stream banks

Potential for adverse effects on botanical resources

- Non-specific grazing of native plants
- Over grazing of vegetation

Potential for adverse effects to wildlife (nesting birds, small mammals, and other wildlife species) due to the presence of a large herd of goats throughout two spring seasons

- Disturbance during the spring reproductive season;
- Overall reduction of low-lying brush reducing habitat and cover
- Displacement of wildlife from habitat;
- Potential for disturbance to nearby northern spotted owl site;
- Potential for conflicts between wildlife and goats, i.e. predation of goats.

Potential for adverse effects to soils

- Potential for loss of soil cover if over-grazing occurs
- Potential for compaction to soils

CHAPTER 2: ALTERNATIVES

A. No Action Alternative

This alternative represents no change from the existing condition and is used as a baseline against which to compare other alternatives. Under this alternative the use of a goat herd to graze and control the regrowth of madrone sprouts would not be authorized. Madrone sprouting would continue unchecked within the project area.

B. Proposed Action Alternative

This Alternative represents the proposal received from Southern Oregon Goat Producers to manage sprouting madrone on 83 acres located in China Gulch. To control resprouting madrone, goats would be grazed in the project area using two techniques; fenced grazing and open range herding. The project area would be grazed about 60 days each spring for two years.

- The **fenced grazing** technique would involve enclosing an estimated 20 acres of the project area using temporary fencing; these 20 acres would be divided into two 10-acre pastures. All goats would be grazed in one 10-acre pasture for about 5 days. Once the goats have utilized the madrone sprouts, they would be grazed using open range herding on about 60 acres (unfenced). Each night the goats would be contained within the second 10-acre pasture. Temporary fences

would consist of solar powered electric fence panels and/or woven wire fence secured on metal posts.

- **Open range herding** would be utilized on about 60 of the 83 acres. Trained herders would manage the goats, with the assistance of herd dogs, to ensure they move through the entire project area and stay within project boundaries. Goats would be penned each night within the fenced pasture (about 10 acres in size). Herd managers would camp with the goats in the project area.

Goats would be turned out on the project area during March or April, when soils are dry enough to prevent soil damage. The goats would be delivered to a drop point on road 38-3-7, an area large enough to accommodate the stock truck.

Water for the goats would be hauled in by truck to a holding tank staged adjacent to road 38-3-7, and would be gravity fed through hoses to a water trough placed near the top of the unit. All temporary fences would be removed at the completion of the project, and the camp area would be cleaned up and left free of garbage or debris.

Project Design Features

This Proposed Action alternative includes project design features (PDFs). Included below are PDFs for the purpose of mitigating, reducing, or eliminating anticipated environmental impacts. Analysis supporting the inclusion of PDFs can be found in the RMP, Appendix D: Best Management Practices.

Soils and Water Quality

Goats would not be turned out into the project area until soils are dry enough to support goats without causing soil damage (hooves sinking into soils causing compaction/displacement).

Vehicles would not be allowed onto road 38-3-16.1 (native surface road) during the wet weather season; conditions must be dry enough to prevent vehicles from creating ruts when driven on the roadway.

Fence enclosures or herding would be used to keep goats within project unit and away from intermittent stream channels adjacent to the project area.

Water for goats would be delivered by truck to approved staging area. No water would be diverted from intermittent streams in or near the project area.

Avoid overflow of water from the trough to keep soils around the trough from becoming saturated and more susceptible to compaction.

Goats would not be allowed to concentrate within dry draws.

Wildlife

Water site within project unit would be placed in the northeast corner of unit south of main ridge area to avoid concentrating activities along the ridgeline adjacent to the owl core, and in an area frequented by black bear.

Temporary fences would be removed following completion of each grazing each season.

Goats would be managed by experienced herders and penned at night to reduce the risk of predation by wildlife, and to minimize disturbance to wildlife that frequent the project area.

Threatened/Endangered Wildlife - northern spotted owl

No activities would be allowed within 0.25 miles of the spotted owl nest core in Sec. 18 from March 1 through June 15th (or longer if the nest site is active). Currently, no activities are planned within 0.25 mile

of the spotted owl nest core located in Sec. 18, as activities would be restricted to the project unit and designated travel corridor.

Botanical
Goats would not be allowed to over-graze the project area; goats would be removed from the project area once the target species have been utilized.

Goats would be kept within the project area or along a designated route when traveling to and from project unit.

Supplemental feed for the goats (i.e. hay) must be certified weed free.

Grazing in the immediate vicinity of roads should be kept to a minimum to reduce the possibility of weed ingestion by goats.

Noxious weeds
Goats would be penned and fed pellets to purge goats of seeds from previous grazing areas prior to turnout on the project area.

If goats are purged upon delivery to the project area, it would take place in a designated area adjacent to the delivery point on road 38-3-7.

Monitoring

An area, about 3 acres in size, would not be grazed as a control site for monitoring the effectiveness of vegetation treatments using grazing.

Photo and vegetation plot monitoring would be used to compare the treatment areas to the no treatment control area for determining the effectiveness of grazing treatments. Photo and plot data collected would be analyzed and documented in a monitoring report.

CHAPTER 3: AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES

A. SOILS

Affected Environment
Vegetation, climatic, geologic and other processes related to hydrology/soils are discussed in depth in the Middle Applegate Watershed Analysis, which incorporated by reference to this EA.

The major soil series identified in proposed project area is evenly distributed between the Caris-Offenbacher complex (25G, 26G), and the Vannoy-Voorhies complex (197F). About one acre of Manita (108D, 108E) is found in the Riparian Reserves below and outside of the immediate project area.

The Caris and Offenbacher soils are intermingled across the landscape forming the Caris-Offenbacher complex. Although these soils generally have surface textures of gravelly loam, soils for much of the project area are overlaid by stones forming talus. Not all of the talus is easily identified, as it is covered with a layer of needles, leaves, and twigs about 1 inch thick. The Caris and Offenbacher soils are moderately deep (20 to 40 inches), well drained, with moderate permeability and severe erosion potential. Erosion Hazard relates to the ease of detachment and movement of soil and rock particles. As with all soils, the runoff rate and the hazard of erosion due to water increases as the slope of the landscape increases and conversely as the presence of protective cover decreases. Also included in this unit are small areas of the McMullin soils (shallow) and rock outcrops on ridges and convex slopes.

Vannoy soils are moderately deep (20 to 40 inches), well drained on hillslopes, with very slow permeability and severe erosion potential. Typically, the surface is covered with a layer of needles, leaves, and twigs about ¾ inch thick. Surface layer is dark brown silt loam about 4 inches thick; in some areas the surface layer is gravelly or very gravelly loam. The next layer is reddish brown silt loam about 7 inches thick. The subsoil is yellowish red clay loam about 27 inches thick. .

The Voorhies soil is moderately deep (20 to 40 inches), well drained, with moderate permeability and severe erosion potential. Typically, the surface is covered with a layer of needles and twigs about 1 inch thick. The surface layer is very dark grayish brown and dark brown very gravelly loam about 8 inches thick. The upper 10 inches of the subsoil is brown very gravelly clay loam. The lower 18 inches is brown very cobbly clay loam.

Manita loam is a deep (40 to 60 inches), well-drained soil, with slow permeability and moderate erosion potential. Typically, the surface layer is dark brown loam about 8 inches thick. The upper 5 inches of the subsoil is dark reddish brown clay loam. The lower 45 inches is yellowish red clay loam. In some areas the surface layer is gravelly. The Manita soil has a high clay content and is susceptible to compaction.

Direct, Indirect, and Cumulative Effects

Under the No-Action Alternative, there would be no increase in erosion rates in the short-term. Without control of sprouting madrone in the project area, the fire hazard in the watershed would increase over the long-term. If fire were to occur in the project area the increase of hazardous fuels would contribute to an increase in fire intensity and decrease effectiveness of fire suppression.

Under the Proposed Action, there is the potential for a slight short-term increase in erosion rates due to displacement of soils by hooves and removal of some vegetation from grazing. Project Design Features are included to minimize the potential for increasing erosion. PDFs include: goats would not be turned out when soils are saturated, experienced herders would be used to keep goats from over-grazing areas; goats would be kept within the project area and would not be allowed to concentrate in dry draws. With the implementation of PDFs potential for sediment to enter streams is low. Additionally, riparian vegetation below the project site would filter sediment, preventing sediment from entering streams downslope of the project area.

There would likely be a slight increase in soil compaction at the watering area were goats concentrate for water; this would be limited to a small area within the unit. Project Design Feature is included to minimize water overflow from the trough to keep soils around the trough from becoming saturated.

B. HYDROLOGY/FISH

Affected Environment

The proposed project is located in headwater areas of China Gulch and Matney Gulch, small tributaries to the Applegate River in the Middle Applegate 5th level watershed. This 5th level watershed includes lands providing runoff draining into the Applegate River from below the confluence with the Little Applegate River to above the confluence with Williams Creek.

Precipitation Regime
Average annual precipitation in the area ranges from approximately 28 to 32 inches. Elevations in the project area range from 2,300 feet to 3,450 feet. Precipitation predominately falls between the months of November and March. Summer months are typically very dry. Rain is the predominate precipitation in the project area; none of the project area is located in the Transient Snow Zone.

Streamflow & Groundwater
Moderate to high streamflows usually occur between mid-November and April, with runoff peaking in February and March. The largest major flood flows in smaller tributaries likely occur in response to rare

isolated major thunderstorms rather than in broader-scale winter flood events. The lowest streamflows generally occur in August and September. The project area has been surveyed by BLM to determine hydrologic features and associated Riparian Reserve locations. None of the draws within the project area exhibit defined channels or annual scour and deposition, so these areas are not classified as Riparian Reserves. Intermittent stream Riparian Reserves are located immediately downstream from the project area. There are no springs, wetlands or other features within the project area that require Riparian Reserves.

Upland Conditions Affecting Streamflow
Upland disturbances (private and public land) involving vegetation removal or soil compaction have the potential to affect the streamflow regime. Changes to hydrologic function can result in increased magnitude and frequency of peak flows, which in turn can cause accelerated streambank erosion, scouring and deposition of streambeds, and increased sediment transport. Past road building, timber harvest, fire exclusion, and agricultural land clearing have influenced hydrologic processes (infiltration, interception, and evapotranspiration) in the Middle Applegate Watershed. Unnaturally high vegetation densities has substantially increased the risk of adverse cumulative effects to the hydrologic/aquatic system in the Middle Applegate watershed should a major fire occur.

Hardwoods such as madrone that are present in dry draws have roots that often survive wildfire. Although crowns and trunks can be destroyed by fire, these hardwoods can quickly resprout from the roots, helping to maintain long-term slope stability. Conifers with tops killed by fire do not resprout, as the roots rot away, slopes can sometimes become unstable until the next generation of trees develop large roots. Conifer roots often are very shallow, while hardwood roots tend to be somewhat deeper helping to stabilize soils. Hardwoods are important for slope and soil stability. The long-term proper function of downstream riparian areas is dependent on the maintenance of both hardwoods and conifers.

Water quality
The portion of the Applegate River below the project area is on the DEQ 1998 list of water quality limited streams, also known as the 303(d) list from Section 303(d) of the 1972 Federal Clean Water Act (CWA). The River is listed for high summer stream temperatures. No other streams in the vicinity of the project area are listed for any 303(d) list concerns (data from ODEQ website http://waterquality.deq.state.or.us). Flow regulation began in the Applegate River in 1981 as a result of the completion of Applegate Dam; summer flows are higher and stream temperatures are lower than prior to the dam. Summertime river temperatures are still well above the 64" Fahrenheit (F.) standard established by DEQ. Although actions proposed in this EA are not directly adjacent to the river itself, and there is no surface flow out of the project area, the cumulative effect of water quality originating from small drainages throughout the Applegate Subbasin (the entire Applegate River drainage) is an important factor in the water quality of the river.

Fish and Aquatic Habitat
There are no fish bearing streams within the project area. The nearest fish-bearing stream to the project area is the Applegate River, approximately 2 miles away, which also supports coho salmon, *Oncorhyncus kisutch*, listed as "threatened" under the Endangered Species Act. There are no intermittent or perennial streams with aquatic habitat within the project area.

Direct and Indirect Effects - No Action Alternative

Streamflow and Groundwater
Water Quality
Fish and Aquatic Habitat
The No Action Alternative would have no direct effects on streamflows, groundwater, stream channels, channel morphology, water quality, Riparian Reserves, or riparian areas. Because there are no intermittent or perennial streams within the project area, there would be no direct improvements or damage to fish and other members of the aquatic biotic community or to aquatic habitat.

Streamflow and Groundwater
Vegetation density in the project area was treated under a previous project. Targeted vegetation that was reduced in density is resprouting, and without treatment will gradually increase in density to levels that will increase the likelihood of severe fire in the project area. Increasing vegetation densities will decrease the amount of water that infiltrates to groundwater or enters downslope stream channels.

Water Quality
The No Action Alternative would have no indirect effect (beneficial or adverse) on stream temperatures in the project area, since stream shading would not be affected by the project. For the same reasons, this alternative would not have any beneficial or adverse effects on water temperatures in the Applegate River, a 303(d)-listed water body.

Fish and Aquatic Habitat

Without treatment, the gradual increase in vegetation density levels will increase the likelihood of severe fire in the project area, which, if it occurred, could impact aquatic habitat in perennial streams and aquatic habitat below the project area.

Cumulative Effects – No Action Alternative

Streamflow, Groundwater and Water Quality
With implementation of the No-Action Alternative, there would be no change in conditions related to hydrology and fisheries described under the affected environment, and therefore it would not contribute directly to adverse cumulative effects. Increasing densities of vegetation would continue to use much of the available soil moisture, allowing very little to infiltrate to deeper soils (where it could be available to larger trees) and groundwater. Summer streamflows would continue to be lower than would be expected with more open stand conditions. Peakflows could also decrease due to reduced rates of runoff from the dense vegetation.

Vegetation densities would continue to increase in the project area, along with the risk of high severity effects from wildfires. The implementation of the Applegate Fire Plan (an effort currently underway in the Subbasin), the current risk of adverse impacts from severe fire effects may be gradually reduced as landowners work to reduce hazardous fuels on private lands. The implementation of the No Action Alternative would be counterproductive to implementation of the Fire Plan, putting riparian and aquatic resources at greater risk on both federal and private lands.

The China Well landscape project is scheduled to begin planning efforts in 2004. The China Well project would propose thinning forest stands to improve forest health and reduce fire hazard. Although the exact number of acres, location, and specific stand level prescriptions have not been developed, the thinning of the smaller diameter materials and brush to grow larger and more fire-resistant trees would likely have a beneficial effect of reducing fire hazard and fire effects on an landscape scale.

Possible future timber harvests on private lands, particularly clearcutting, could temporarily increase peakflows on local streams. A future major fire would likely have negative consequences to both peakflows and groundwater, with stormflow running off much more quickly and less making it into groundwater.

Management actions on private lands that reduce stream shade, maintain riparian areas in open stand conditions, and divert water and return warm water flow (irrigation practices), would continue to prevent stream temperatures from meeting the State water quality criteria. Beneficial uses sensitive to stream temperatures, such as cold-water fish and other aquatic life, would not thrive under water temperatures that exceed the State criteria.

Fish and Aquatic Habitat:
Downstream riparian habitat and condition would remain unchanged. The residential, commercial, agricultural and transportation impacts on lands in nearby mountains as well as streams valleys, rivers, and estuaries limit animal migration, block fish passage, divert water, and in general have seriously reduced riparian habitat. Consequently, severe fires or other landscape-level changes due to inaction may further impact already stressed riparian systems.

Direct and Indirect Effects – Proposed Action Alternative

Streamflow and Groundwater
Water Quality
Fish and Aquatic Habitat
The proposed project would not have any direct effect on stream temperatures. There are no Riparian Reserves or associated stream channels within the project area; therefore, stream shade cannot be compromised by the project. The Proposed Action would have no direct effect on instream sediment levels. This project would have no direct effect on any fish species or fish habitat.

Streamflow and Groundwater
Vegetation density in the project area was treated under a previous project; the Proposed Action would maintain conditions implemented on the earlier project. Water provided to the animals would be brought in from off-site locations, so there would be no diversion/withdrawal affecting flows in area streams. Watering tanks and night pens would be located away from dry draws, eliminating the chance of any impact to these areas. There would be no effect to streamflow and groundwater due to the limited timeframe of the project, implementation of Project Design Features, and distance to Riparian Reserves and active stream channels.

Water Quality
The Proposed Action would have no indirect effect (beneficial or adverse) on stream temperatures in the project area, since stream shading would not be affected by the project, nor would there be any beneficial or adverse effects on water temperatures in the Applegate River, a 303(d)-listed water body. There would be no effect to other water quality parameters due to the limited timeframe of the project, the season of use, implementation of Project Design Features, and distance to Riparian Reserves and active stream channels.

Fish and Aquatic Habitat

The Proposed Action is intended to reduce hazardous fuels and the risk severe wildfire effects, which would have the indirect effect of reducing the risk of impacts to fish and aquatic habitat from wildfires. There would be no other indirect effects due to the distance from fish bearing streams and lack of active stream channels within the project area, combined with the limited timeframe of the project and implementation of the Project Design Features.

<u>Determination of Effects to SONC Coho salmon, SONC Coho salmon Critical Habitat, and Essential Fish Habitat (EFH)</u>
Under the Proposed Action, there would not be any impacts from the proposed project on coho salmon, coho critical habitat or essential fish habitat. Due to the distance of the treatment areas from coho habitat, lack of any active stream channels within the project area, and buffering nature of downstream Riparian Reserves, natural ecosystem processes would be maintained. No fine sediments, flow problems or other potentially harmful physical changes would negatively impact downstream conditions and coho habitat.

Cumulative Effects – Proposed Action Alternative

Streamflow, Groundwater, and Water Quality
With implementation of the Proposed Action, vegetation densities would be reduced in the project area; thus, increasing the likelihood that wildfire would result in low severity rather than stand-replacement fire.

The implementation of the Applegate Fire Plan (an effort currently underway in the Subbasin), the current risk of adverse impacts from severe fire effects may be gradually reduced as landowners work to reduce hazardous fuels on private lands. The proposed project would complement implementation of the Fire Plan.

The China Well landscape project is scheduled to begin planning efforts in 2004. The China Well project would propose thinning forest stands to improve forest health and reduce fire hazard. Although the exact number of acres, location, and specific stand level prescriptions have not been developed, the thinning of the smaller diameter materials and brush to grow larger and more fire-resistant trees would likely have a beneficial effect of reducing fire hazard and fire effects on an landscape scale.

The thinning and periodic underburning of a large number of acres throughout the China Gulch and greater Applegate Watershed could also improve hydrologic and riparian function. Summer streamflows may begin to improve in some streams as treatments produce more open stand conditions allowing greater infiltration of winter rains into groundwater. Peakflows may increase slightly from currently depressed levels. Possible future timber harvests on private lands, particularly clear cutting, could temporarily increase Peakflows on local streams, but this effect would be short-lived as small trees and brushy vegetation grow up on those sites. Thinning in surrounding uplands would likely increase soil moisture available to riparian areas at certain times of year. Available groundwater could increase from such activities, as well.

A major fire would likely have adverse consequences to both peakflows and groundwater, with stormflow running off much more quickly and less making it into groundwater. As more vegetation treatments designed to mimic the natural fire regime are completed on more of the landscape, the potential for severe wildfire effects would begin to decrease within the project area and the landscape scale.

Stream temperatures in the area would continue to be heavily influenced by riparian conditions on private lands. The proposed project would help maintain a lower vegetation density within the project area, but would have no other effect on water quality. Overall improvement in stream temperatures depends on improvement in riparian conditions along many streams, particularly the larger, valley-bottom perennial streams that contain water during the times of the year when high stream temperatures are a concern. Management actions on private lands may still prevent stream temperatures in the Applegate River from meeting the State water quality criteria. Beneficial uses sensitive to stream temperatures, such as cold-water fish and other aquatic life, would not thrive under water temperatures that exceed the State criteria.

At the watershed scale, the Proposed Action would produce no detectible changes in streamflow or groundwater because of the small acreage involved and the minor change in vegetation condition that would result. The implementation of the Proposed Action would have no effect to riparian vegetation, stream shade, or sedimentation, and therefore would have no adverse effects to water quality. Considering this project with past, current, and reasonably foreseeable projects there is no potential for adverse cumulative effects to hydrologic function or water quality as a result of implementing this project.

Fish and Aquatic Habitat
Reduced wildfire impacts would lessen the risk of severe habitat impact to downstream fish. However, any small improvements may be offset by other human-caused problems as the valley population increases: continued floodplain development, industrial timber harvest, increased OHV erosion in the uplands, or road construction on private land. The proposed treatment would not contribute to adverse cumulative effects on fish.

C. SPECIAL STATUS & SURVEY AND MANAGE PLANT SPECIES

Affected Environment

The proposed project area was surveyed for Bureau Special Status (BSS) and Survey and Manage (S&M) vascular plants as well as the federally listed Fritillaria gentneri by qualified botany contractors in the spring of 1998 and again in the spring of 2002. No BSS, S&M or federally listed vascular plants were found.
The project area was surveyed for BSS and S & M nonvascular plants by qualified botany contractors in the fall of 2001, and again in the spring of 2002. No BSS, S&M nonvascular plants were found.

Direct, Indirect, and Cumulative Effects

There would be no effects to any Bureau Special Status or Survey and Manage, or federally listed vascular plant species. There would be no effects to any Bureau Special Status or Survey and Manage nonvascular plant species.

D. NOXIOUS WEEDS

Affected Environment

At least two noxious weed species are known to exist alongside roads and in disturbed areas adjacent to the project area. These species are bull thistle (*Cirsium vulgare*) and yellow star thistle (*Centaurea solstitialis*).

Direct, indirect, and Cumulative Effects

There is a possibility that weeds could be spread to other parts of the unit via ingestion by goats. There is also potential for goats to spread weeds from other areas previously grazed. If left un-treated, noxious weeds can reduce habitat suitability for the Bureau Special Status plants adapted to those habitats. Project Design Features are included to minimize the potential to spread noxious weeds in the project area. PDFs include: goats would be penned and fed pellets to purge them of seeds from previous grazing areas prior to turnout on the project area; if goats are purged upon delivery to the project area, it would take place in a designated area adjacent to the delivery point on road 38-3-7; any supplemental feed for the goats (i.e. hay) must be certified weed free; and grazing in the immediate vicinity of roads should be kept to a minimum to reduce the possibility of weed ingestion by goats. With the implementation of Project Design Features the potential for the spread of noxious weeds is reduced.

E. WILDLIFE

Affected Environment

Approximately 235 vertebrate wildlife species are known or suspected to occur in the area in and around the project area.

Threatened/Endangered Species - northern spotted owl
The northern spotted owl is listed as a threatened species under the auspices of the Endangered Species Act of 1973, as amended. Formal programmatic consultation with the U.S. Fish and Wildlife Service has been completed for silvicultural maintenance projects during fiscal years 1997 through 2005 [Biological Opinion 1-7-96-F-392 (BO)]. The mandatory terms and conditions of the BO require the implementation of project design criteria proposed in the Biological Assessment for Rogue River/South Coast FY 97/98 Timber Sale Projects (BA). These criteria would be incorporated in the design of this project. The BA and BO are available for review at the Medford BLM Office.

A spotted owl nest core is nearby the project area. The historic activity center is approximately ½ mile from the project unit and further away from designated goat travel route to the project unit.

Special Status Species

Species are recognized as "special status" if they are federally listed as Threatened or Endangered, proposed or a candidate for federal listing as Threatened or Endangered, or if they are a BLM sensitive or assessment species. BLM policy is to manage for the conservation of these species and their habitat so as not to contribute to the need to list and to recover these species. Nine special status wildlife species are known or suspected to be present in the general area of the proposed project. The following table lists these species and their status.

Species	**Species Status**[1]
Western Pond Turtle (*Clemmys marmaorata*)	BS
Siskiyou Mountains Salamander *(Plethodon stormi)*	BA/PB
Black Salamander *(Aneides flavipunctatus)*	BA
Northern Spotted Owl (*Strix occidentalis caurina*)	T
Bald Eagle (*Hailaeetus leucocephalus*)	T
Northern Goshawk (*Accipiter gentilis*)	BS
Great Gray Owl (*Strix nebulosa*)	PB
Townsend's Big-eared Bat (*Corynorhinus townsendii*)	BS/PB
Pacific Fisher *(Martes pennanti pacifica)*	BS

1/ Status:
T - Listed as threatened under the ESA
BS - Bureau sensitive
BA - Bureau assessment
PB - Protection Buffer zone established under NWFP

Survey and Manage Species

The Northwest Forest Plan provides extra protection for some species through a Survey and Manage standard and guideline. This standard and guideline provides protection for known sites, and directs that surveys be implemented before ground-disturbing activities. As a result of meeting the wildlife criteria, suitable habitat in the project area has been surveyed for mollusks. No species on the current survey and manage species list were found during surveys of the project area.

Direct and Indirect Effects - No Action

Under this alternative, resprouting of madrone and other brush species after the manual pre-commercial thinning would naturally occur. Since no actions are planned under this alternative, disturbances and vegetative succession would occur naturally (except for fire suppression), and wildlife populations and distributions would change in response to these processes. The fire hazard would be higher under this alternative.

The resprouting madrone and other brush species provide food and cover for many species of wildlife. Some wildlife species such as small mammals, birds, and mollusks would be attracted to the ground level brush habitat for cover and reproductive habitat. Brush species would compete for water and sunlight with young conifer trees, slowing the conifer establishment and growth. Generally, wildlife species that use brushy habitat, such as the Western fence lizard, wrentit, and dusky-footed woodrat would benefit from this alternative. In contrast, this alternative would slow the process of larger tree growth for those wildlife species, such as northern spotted owls and Douglas' squirrel that use mature forest habitat.

Cumulative Effects – No Action

The cumulative effect to wildlife of no action would be that disturbances and vegetative succession would occur naturally (except for fire suppression), and wildlife populations and distributions would change in response to these processes. This alternative would continue to facilitate a higher fire-hazard.

Direct and Indirect Effects – Proposed Action

The general effects of forestry and maintenance activities on wildlife and wildlife habitat are discussed in Chapter 4, pages 51-65, and other portions of the BLM Medford District Resource Management Plan, October 1994.

Treatments such as pre-commercial thinning and brush maintenance are designed to promote young conifer establishment and are expected to benefit some wildlife species by restoring these stands to historic habitat conditions. In the long term, some wildlife species would benefit from promoting the growth of larger trees.

Because goat grazing is non-specific, native plants are likely to be grazed as well as the target madrone resprouts. This would effect wildlife indirectly through reduced availability of native plants for forage or other functions. In the short-term, the overall reduction of low-lying brush would reduce habitat and cover for birds, small mammals, and other wildlife species. Brush would eventually grow back after grazing is discontinued. The effects would be limited to the 83-acre project area.

A large herd of goats would cause disturbance to nesting birds, small mammals, and other wildlife during the project period of two spring reproductive seasons. The unit has already been disturbed recently when it was pre-commercially thinned. Hand piles were also burned within this unit. Due to this recent disturbance and the small scale of the project, the disturbance of the goats would not be expected to add major adverse impacts to wildlife in the project area. A larger impact would be from the displacement of wildlife from surrounding habitat due to the presence of a large herd of goats throughout two spring seasons. For example, deer that would usually use the area would be unlikely to use surrounding habitat when a large herd of goats is there day and night. Penning the goats at night-time in a 10 acre pasture would minimize disturbance to wildlife that use the area.

There would be a possibility of goat predation from bear and cougar. Both large predators are known to be near the project area and are important components of the forest ecosystem. Project design features including closely supervised herding and night penning would mitigate potential for goat and wildlife conflicts.

Threatened/Endangered Species - Northern Spotted Owl

This project would not remove or degrade suitable spotted owl habitat. Concerns for impacts to spotted owls would be limited to disturbance. To avoid disturbance to a nearby spotted owl nest core in Section 18, no activities related to this project would be allowed within 0.25 miles of the nest activity center. Project activities would be restricted to the project area and designated travel route.

Special Status/Survey and Manage Species

No large-scale change in habitat function or other detrimental effects are expected for any Special Status or Survey and Manage Species due to the brush treatments proposed in this project. Protocol surveys have not located any of these species in the proposed project unit.

Cumulative Effects – Proposed Action

There are 46,884 acres of federal land in the Middle Applegate watershed area, of which the proposed project is a part. In the last five years, approximately 6,500 acres of vegetation have been thinned in the Middle Applegate watershed. In the foreseeable future, approximately 3,000 acres are planned for thinning on federal land in this watershed during the period from 2001 through 2006. The Proposed Action alternative is a small piece of the large-scale effort to reduce fire hazard through forest treatments aimed at reducing density and improving forest health.

Monitoring of the project's results and effects will be done in order to determine whether goat grazing is an appropriate tool for brush control which is compatible with the protection of other resources such as wildlife.

F. AQUATIC CONSERVATION STRATEGY OBJECTIVES

The Proposed Action Alternative would meet all the requirements of the Aquatic Conservation Strategy. The distribution, diversity, and complexity of watershed and landscape scale features, the spatial and temporal connectivity within and between watersheds, and the timing, variability, and duration of floodplain inundation and water table inundation in meadows and wetlands would all be unaffected. The limited timeframe of the project, implementation of Project Design Features, and distance to Riparian Reserves and active stream channels would ensure that instream flows and the timing, magnitude, duration, and spatial distribution of peak, high, and low flows would be maintained. For the same reasons, there would be no effect on water quality or the riparian, aquatic, and wetland ecosystems. There are no riparian Reserves in the project area, and goats would not be allowed to concentrate in dry draws, protecting shorelines, banks, and bottom configurations, as well as maintaining plant, invertebrate, and vertebrate riparian-dependent species.

G. CULTURAL RESOURCES

The project area was surveyed for cultural resources in FY 98. Sites discovered by the survey are located outside of the project area. Since there are no known sites in the project area so no negative impacts to cultural resources are anticipated from the proposed project.

H. CRITICAL ELEMENTS

The following elements of the human environment are subject to requirements specified in statute, regulation, or executive order and must be considered in all EAs.

Critical Element	Affected Yes	Affected No	Critical Element	Affected Yes	Affected No
Air Quality		✔	T & E Species		✔
ACECs		✔	Wastes, Hazardous/Solid		✔
Cultural Resources		✔	Water Quality		✔*
Farmlands, Prime/Unique		✔	Wetlands/Riparian Zones		✔
Floodplains		✔	Wild & Scenic Rivers		✔
Nat. Amer. Rel. Concerns		✔	Wilderness		✔
Invasive, Nonnative Species		✔**	Energy Resources (EO 13212)		✔
			Environmental Justice		✔

*****These affected critical elements could be impacted by the implementing the Proposed Action. Impacts are being avoided by project design.

******These affected critical elements would be impacted by implementing the Proposed Action. The impacts are being reduced by designing the Proposed Action with Best Management Practices, Management Action/Direction, Standard and Guidelines as outlined in the Environmental Impact Statements (EIS)/Record of Decisions *(RMP) (USDI BLM 1995)(USDA FS; USDI BLM 1994*) tiered to in Chapter 1. The impacts are not affected beyond those already analyzed by the above-mentioned documents.

CHAPTER 4: CONSULTATION WITH OTHERS

An interdisciplinary team of resource specialists reviewed the proposal and all pertinent information, and identified relevant issues to be addressed during the environmental analysis.

EA Availability and Distribution List
Upon completion of this EA, a legal notification was placed in the Medford Mail Tribune offering a public review and comment period. For additional information, please contact Kristi Mastrofini or Bill Yocum at (541) 618-2384.

This EA was distributed to the following agencies, organizations, and tribes:

Association of O&C Counties
Audubon Society
Headwaters
Jackson County Commissioners
Jackson Co. Soil and Water Conservation District
Klamath Siskiyou Wildlands Center
Applegate River Watershed Council
Northwest Environmental Defense Center
Oregon Department Forestry
Oregon Natural Resources Council
Oregon Department of Fish and Wildlife
Rogue River National Forest (RRNF)
Applegate Ranger District - RRNF
Medford District Resource Advisory Committee
The Pacific Rivers Council
Southern Oregon University
Oregon State University - Southern Oregon Experiment Station

Federally Recognized Tribes
Cow Creek Band of Umpqua Indians
Confederated Tribes of Grand Ronde
Confederated Tribes of Siletz
Klamath Tribe
Quartz Valley Indian Reservation (Shasta Tribe)
Shasta Nation

Other Tribes
The Confederated Tribes
Confederated Bands [Shasta], Shasta Upper Klamath Indians
Confederated Tribes of the Rogue-table Rock and Associated Tribes